

### **3<sup>rd</sup> WEEK**

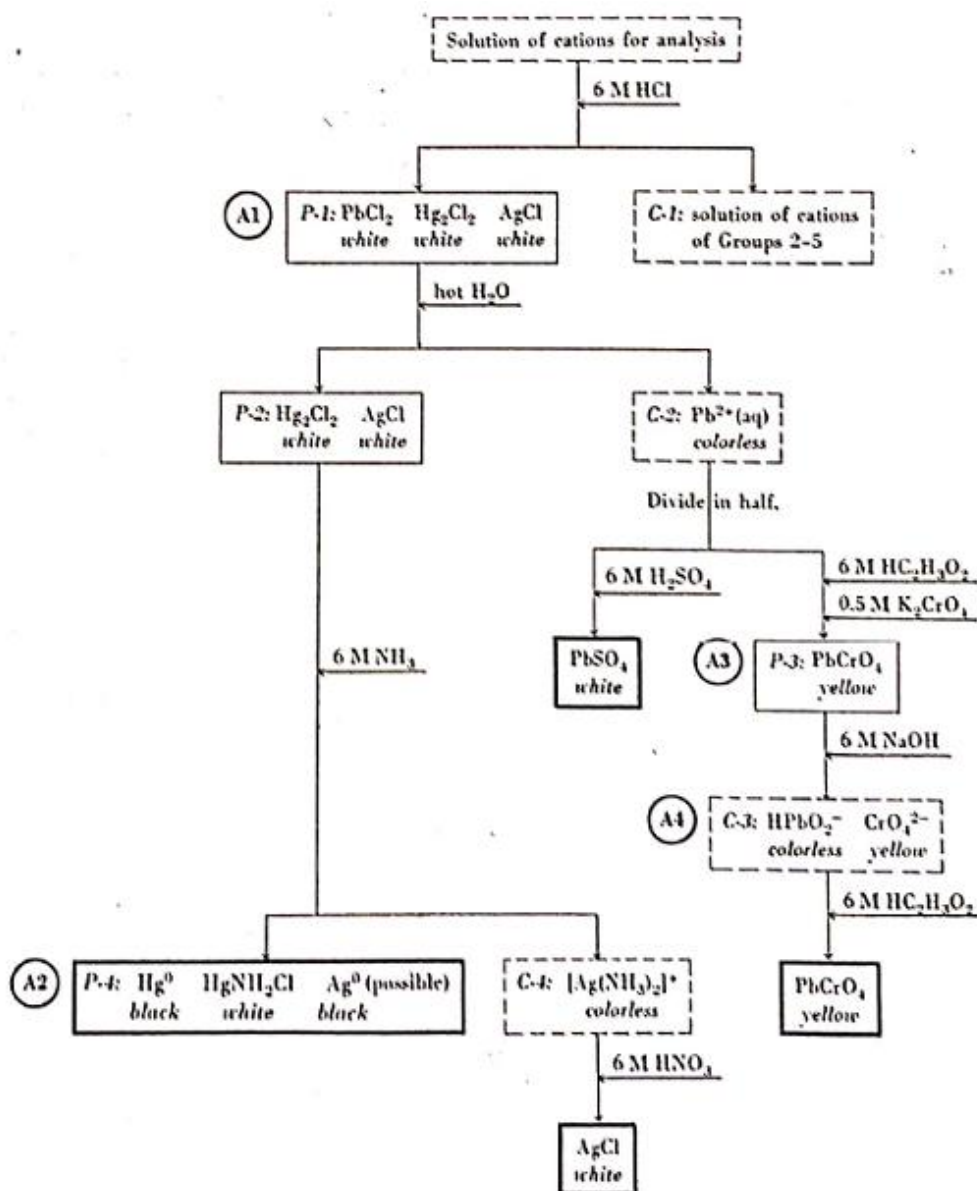
#### **Analysis of Cation Group 1:**

- Cation group 1- All students complete the procedure given in the flowchart below for KNOWN sample analysis.
- Cation group 1- Each student complete the procedure for their own UNKNOWN sample analysis

In all analysis schemes, precipitates are enclosed in boxes with solid lines, solutions are contained in boxes with dashed lines.

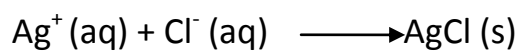
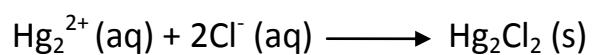
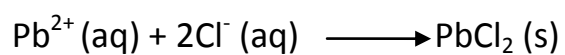
# Cation Group 1: The Chloride Group- $\text{Pb}^{2+}$ - $\text{Hg}_2^{2+}$ - $\text{Ag}^+$

The cations lead(II), mercury (I) and silver (I) form sparingly soluble compounds with chloride ion.

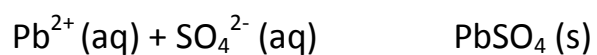
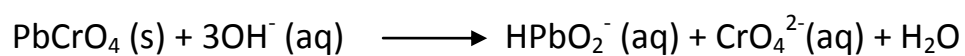
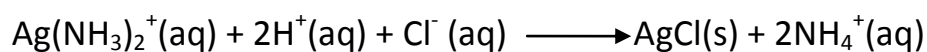
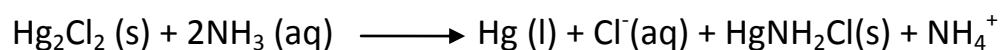


Qualitative analysis flowchart for The Chloride Group

### Some examples for precipitation reactions



### Some examples for identification reactions



## REPORT FOR QUALITATIVE ANALYSIS

<b>Name- Surname:</b>		<b>Number:</b>	
<b>Sample No</b>	<b>1</b>	<b>Date</b>	
<b>Sample Name</b>	<b>Cation group 1</b>		
<b>Ions expected to be observed</b>	<b>To be filled by the assistant</b>		
<b>Analysis of ion under study</b>	<b>Procedure and Observation</b>	<b>Precipitation-Identification reactions for the ion</b>	
<b>Result</b>			

**List of some reagents used in experiments are given below:**

6 M Hydrochloric acid solution (HCl)
6 M Nitric acid solution (HNO <sub>3</sub> )
6 M Ammonia solution (NH <sub>3</sub> )
6 M Acetic acid (CH <sub>3</sub> COOH)
6 M Sulfuric acid (H <sub>2</sub> SO <sub>4</sub> )
6 M Sodium hydroxide (NaOH)
0.5 M Potassium chromate (K <sub>2</sub> CrO <sub>4</sub> )